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2849 W. ARMITAGE AVE.
CHICAGO, IL 60647

EXAMINER	
LEWIS, RALPH A	

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/665,441
Filing Date: September 18, 2003
Appellant(s): BERGERSEN, EARL O.

Brian Mattson
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 29 July 2008 appealing from the Office action mailed 28 December 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

10/447,099 – Appeal to Board of Patent Appeals and Interferences,

10/449,292 – Appeal to Board of Patent Appeals and Interferences, and

10/449,312 – Appeal to Board of Patent Appeals and Interferences.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The examiner, however, withdraws the provisional obvious-type double patenting rejections of 1-20 and 35-87 based on copending Application Numbers 10/447,099; 10/449,292; 10/449,312; 10/760,604; and 11/257,330. Amendments to the claims of this application, as well as, the claims of the copending applications have rendered the issue moot.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

U.S. Patent 5,645,420	Bergersen	July 8, 1997
U.S. Patent 4,591,341	Andrews	May 27, 1986
U.S. Patent 5,328,362	Watson et al	July 12, 1994

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8-12, 14, 16, 17, 19, 20, 35-39, 41, 42, 44-51, 58-66 and 68-87 are rejected under 35 U.S.C. 102(b) as being anticipated by Bergersen (US 5,645,420).

Bergersen '420 discloses a dental appliance having a general U-shaped base (Figure 2), flat occlusal surface 50 (note Fig 5, a cross section of Figure 2 on line V-V), first wall 26 (Figures 5 and 3), second wall 28 (Figures 5 and 3) and a slot 22 whose width increases from the front (Figure 3, a cross section of Figure 2 on line III-III) to the rear (Figure 5). The slot receives a canine tooth at 22c and is capable of pushing a misaligned canine tooth into the desired aligned position.

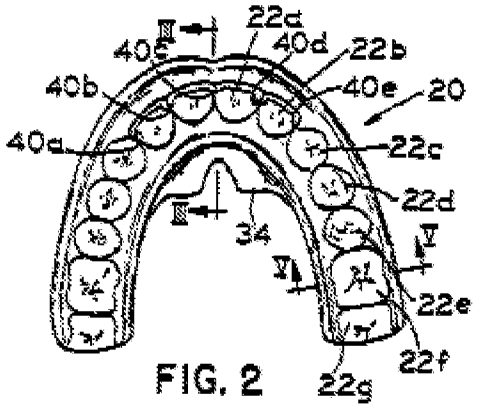


FIG. 2

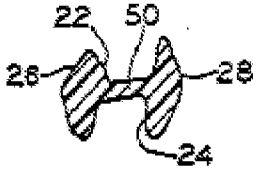


FIG. 5

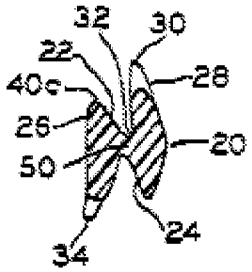


FIG. 3

In regard to the "wire embedded in the base" limitation of claim 1, Bergersen '420 discloses in Figures 13 and 14 a wire member 104 (note column 10, lines 4-10) which is

embedded within the base and extends from the base vertically (in a "serpentine shape") into the outer wall (i.e. second wall 28) on one side of a tooth and not on the opposite side of the same tooth (i.e. in the inner first wall 26). For purposes of the present rejection the "base" is considered to be that portion between the two roughly horizontal lines in the reproduced Figure 5 below and the first and second walls are considered to extend upward from the base.

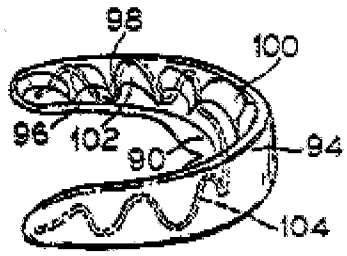
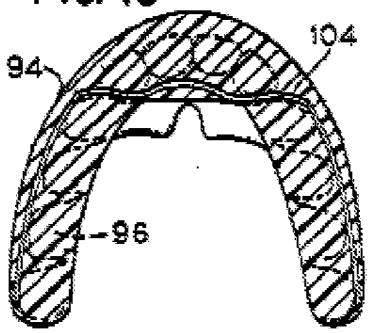


FIG. 14

FIG. 13



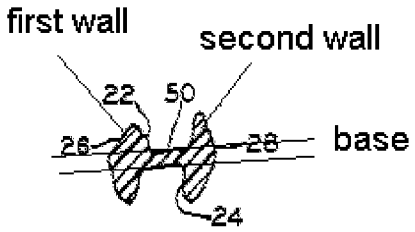


FIG. 5

In regard to claim 2, the incisors would be received in the Bergersen '420 slot 22 at positions 22a and 22b (Figure 2). In regard to claim 4, note the lingual tabs 34 of Bergersen '420. In regard to claim 5, the embedded wire extends from the second wall into the base and into a third wall directly below the second wall that extends downward from the base. In regard to claim 6, at column 8, lines 1-22, Bergersen '420 discloses that a harder or softer liner material may be added to the base at "selected tooth depressions" (column 7, lines 61-62) in order to help reposition a particular tooth. The Bergersen '420 softer liner material added to the base at the second portion meets the limitation.

In regard to claim 8, note socket 22c (Figures 1 and 2) for receiving a canine tooth and wedge shaped projection 100 (Figure 12) between the incisors (i.e. the "second tooth") and the canines (i.e. "interproximal") in order to move the tooth when the appliance is worn. See particularly column 9, line 63 – column 10, line 3. In regard to claim 9, the base for contacting the teeth of the lower jaw 24 and/or the liner material (column 8, lines 1-22) meet the "second base" limitation. In regard to claim 10, note sockets 22a, 22b, 22d, 22e 22f, 22g. In regard to claim 11, note first area 22a and second area 22f. In regard to claim 12, note wire 104 which applies a force to teeth on the outer side, but not the inner side. In regard to claim 13, note column 5, line 50 which indicates that a space may be provided for adult teeth which have not yet erupted (i.e. adult teeth that have not yet broken through the gums). The non erupted teeth would not be contacted by the base of the Bergersen '420 dental appliance.

In regard to claim 14, note in Figure 12 the U-shaped base having tooth sockets 102 with peripheral walls 98 that separate adjacent teeth. Note in Figures 13 and 14 that a wire may 104 may be embedded in the base and extend vertically into the outer wall to contact the tooth only on the outer side of the tooth. In regard to claim 16, it is noted that the sockets are "preformed" prior to use. In regard to claim 17, note the customizing of selected sockets with liner material (column 7, lines 43-67). In regard to claim 20, again note the liner material (column 7, lines 43-67).

In regard to claim 35, note the remarks above with respect to claim 1. In regard to the "liquid within the generally U-shaped base" limitation note column 10, line 62 – column 11, line 12 describing the soaking of the device in a liquid fluoride solution and

the absorption of the fluid into the appliance. In regard to claim 37, a portion of the second wall may be considered the broadly claimed "labial shield.' In regard to claim 38, note lingual tabs 90. In regard to claim 42, at column 8, lines 1-22, Bergersen '420 discloses that a harder or softer liner material may be added to the base at "selected tooth depressions" (column 7, lines 61-62) in order to help reposition a particular tooth. The Bergersen '420 softer liner material added to the base at the second portion meets the limitation.

In regard to claim 44, note the remarks above with respect to claim 14. In regard to claims 45 and 48, note Figure 1A with socket 22Ae for receiving multiple teeth taught as an alternative to individual sockets in Figure 1. In regard to claim 47, note lingual tabs 47, 90. In regard to claim 49, note column 10, line 62 – column 11, line 12 describing the soaking of the device in a liquid fluoride solution and the absorption of the fluid into the appliance.

In regard to claims 58-66 and 68-87 which repeat the limitations of earlier claims, note the remarks above. Additionally, in regard to the "rib" of claim 79, projections 98 and 100 in Figure 12 meet the "rib" limitation. In regard to the "designed from a digital model by a computer" limitation of claim 85, as well as, product by process claims 86 and 87, the manner in which applicant intends for the dental appliance to be designed and manufactured fails to impose any objectively ascertainable structural distinctions from the dental appliance disclosed by Bergersen '420.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7, 13, 43, 52-57 and 85-87 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (US 5,645,420).

In regard to claims 7, 18, Bergersen '420 discloses the wire 104 embedded in an external wall rather than the internal wall as claimed. One of ordinary skill in the art, however, would have found it obvious to have embedded the wire in the internal wall of the appliance in order to push the inner side of the patient's teeth. In regard to claim 13, constructing the appliance so that it does not touch the occlusal surface of every tooth (e.g. a tooth that is not fully erupted) would have been obvious as a matter of routine practice.

In regard to claim 43, Bergersen '420 discloses a vertical slit 70 between a slot for the upper teeth and a slot for the lower teeth in order to ensure that no pressure is applied to the incisors in a vertical direction (note column 8, line 54- column 9, line 2) rather than between a slot for the upper teeth and "an exterior surface." At column 4, lines 30-33, however, Bergersen '420 indicates that the appliance may be designed for only the upper or only the lower teeth. To have provided such a slit 70 in a device for only the upper teeth (i.e. slit extends from slot to an "exterior surface") in order to ensure

that there is no vertical pressure on the incisors as taught by Bergersen '420 would have been obvious to the ordinarily skilled artisan.

In regard to the "providing an analysis means" and "displaying a tooth arrangement" limitations of claim 52 (and further defined in claims 53-57), applicant's written disclosure concludes with a vague description of using a ruler, camera, packaging or mirror to measure and display a patient's dentition. The use of a common ruler to measure sizes, of packaging that indicates the size of a device, the use of a mirror or digital image to display to the patient the procedure being undertaken are all common dental procedures the use of which with the Bergersen '420 device would have been obvious as a matter of routine to one of ordinary skill practicing in the art. Moreover, it noted that appellant does not dispute the assertion that such are convention methods in the arguments with respect to claim 52 (note brief pages 25 and 26).

Claims 15, 40 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (US 5,645,420) in view of Andrews (US 4,591,341).

Andrews teaches the use of small suction cups (14, 16, 20, 24, 26, 30) positioned in an orthodontic appliance in order to provide increased adherence and firmly hold the teeth together in the desired position. To have provided the Bergersen '420 orthodontic appliance with small suction cups in order to provide increased adherence and firmly hold the teeth together in the desired position as taught by Andrews would have been obvious to one of ordinary skill in the art.

Claims 6, 42 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bergersen (US 5,645,420) in view of Watson et al (US 5,328,362).

Watson et al teach the construction of dental appliances of a first relatively rigid material and a second relatively soft resilient material for aiding in the proper movement of the patient's teeth. To have constructed the Bergersen '420 orthodontic appliance of hard and soft materials as taught by Watson et al in order to aid in the proper movement of the patient's teeth would have been obvious to one of ordinary skill in the art.

(10) Response to Argument

In response to the 35 U.S.C. 102(b) rejection based on Bergersen '420 applicant argues that element '104 identified by the examiner as meeting the limitations of the embedded wire does not "extend vertically from the base." The examiner disagrees Figure 14 clearly shows the "serpentine shape" (column 10, lines 7 and 8) as extending up from the base and into the vertical outer wall. The examiner notes that "vertical" does not require a 90 degree angle. Applicant further argues that the Bergersen '420 wire 104 is "completely inside the appliance." The examiner agrees, but is of the position that there is no requirement in the claims that the wire be exposed. Claim 1 only requires that the wire extend "adjacent to the first side of the tooth." Method claim 14 which states that the "wire extends vertically from the base and contacts the first tooth only on the one side" is considered to be met by the wire 104 of Bergersen '420

which runs immediately adjacent the tooth sockets (Figure 13) and contacts at least a first tooth through an apparent thin layer of plastic.

Appellant further argues that '420 "merely teaches use of different materials within the same socket" rather than "different materials in sections that contact different teeth." The examiner is not convinced. The use of a softer liner material in one socket would be a different material in an area different from another socket that does not include the liner material.

Appellant argues that '420 "discloses troughs with sockets, not a slot that has an increased width rearward in the slot." This examiner is of the position that giving a prior art structure (a "trough") a new name ("a slot") fails to make that old prior art structure patentable.

Appellant argues that '420 fails to disclose the wedges of claim 8. The examiner again directs attention to column 9, line 63 – column 10, line 3 of Bergersen '420.

Appellant's remaining arguments are repetitive in nature and addressed above and in the body of the rejection above.

(11) Related Proceeding(s) Appendix

There have been no decisions by the Board in the related appeals identified in the Related Appeals and Interferences section of this examiner's answer.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Ralph A. Lewis/
Primary Examiner, Art Unit 3732

Conferees:

/Cris L. Rodriguez/
Supervisory Patent Examiner, Art Unit 3732

/Janet C. Baxter/
TC 3700 TQAS